What is Claimed is:

1. A method for processing a substrate, comprising:

positioning the substrate in a processing chamber, wherein the substrate has a barrier layer comprising at least silicon and carbon;

introducing an organosilicon compound and an oxidizing gas at a first ratio of organosilicon compound to oxidizing gas into the processing chamber;

generating a plasma of the oxidizing gas and the organosilicon compound to form an initiation layer on the barrier layer;

introducing the organosilicon compound and the oxidizing gas at a second ratio of organosilicon compound to oxidizing gas greater than the first ratio into the processing chamber; and

depositing a first dielectric layer adjacent the dielectric initiation layer, wherein the dielectric layer comprises silicon, oxygen, and carbon and has a dielectric constant of about 3 or less.

2. The method of claim 1, wherein the barrier layer further comprises oxygen or nitrogen.

3. The method of claim 1, wherein the organosilicon compound is selected from the group of trimethylsilane, 2,4,6,8-tetramethylcyclotetrasiloxane, octamethylcyclotetrasiloxane, and combinations thereof, and the oxidizing gas is selected from the group of oxygen, ozone, carbon monoxide, carbon dioxide, nitrous oxide, and combinations thereof.

4. The method of claim 1, wherein the depositing the initiation layer comprises generating a plasma by a dual-frequency RF power source.

5. The method of claim 1, wherein the depositing the first dielectric layer comprises generating a plasma by a dual-frequency RF power source.

6. The method of claim 1, wherein the first ratio of the organosilicon compound

to the oxidizing gas comprises a ratio of about 1:1 and the second ratio of the organosilicon compound to the oxidizing gas comprises a ratio greater than or equal to about 10:1.

7. The method of claim 1, further comprising introducing an inert gas with the organosilicon compound and the oxidizing gas.

8. The method of claim 1, further comprising exposing the barrier layer to a plasma of an inert gas, an oxidizing gas, or both, prior to introducing the oxidizing gas and the organosilicon compound.

9. A method for processing a substrate, comprising:

positioning the substrate in a processing chamber, wherein the substrate has a barrier layer comprising silicon, nitrogen, and carbon;

introducing an inert gas into the processing chamber;

generating a first plasma from a single-frequency RF power source to modify a surface of the barrier layer;

introducing an organosilicon compound and an oxidizing gas in a ratio of about 1:1 into the processing chamber;

generating a second plasma from a dual-frequency RF power source to form an initiation layer on the barrier layer;

introducing the organosilicon compound and the oxidizing gas in a ratio of greater than or equal to about 10:1 into the processing chamber; and

depositing a first dielectric layer adjacent the dielectric initiation layer, wherein the dielectric layer comprises silicon, oxygen, and carbon and has a dielectric constant of about 3 or less.

10. The method of claim 9, wherein the inert gas comprises helium, argon, or combinations thereof.

11. The method of claim 9, wherein the organosilicon compound is selected from the group of trimethylsilane, 2,4,6,8-tetramethylcyclotetrasiloxane,

octamethylcyclotetrasiloxane, and combinations thereof, and the oxidizing gas is selected from the group of oxygen, ozone, carbon monoxide, carbon dioxide, nitrous oxide, and combinations thereof.

12. The method of claim 11, wherein an inert gas is introduced with the organosilicon compound.

13. A method for processing a substrate, comprising:

positioning the substrate in a processing chamber, wherein the substrate has a barrier layer comprising at least silicon and carbon;

introducing an oxidizing gas into the processing chamber;

generating a plasma of the oxidizing gas and treating a surface of the barrier layer;

introducing an organosilicon compound at a first flow rate;

depositing an initiation layer on the barrier layer from the oxidizing gas and the organosilicon compound;

introducing the organosilicon compound at a second flow rate greater than the first flow rate;

depositing a first dielectric layer adjacent the dielectric initiation layer from the oxidizing gas and the organosilicon compound, wherein the dielectric layer comprises silicon, oxygen, and carbon and has a dielectric constant of about 3 or less.

14. The method of claim 13, wherein the barrier layer further comprises oxygen or nitrogen.

15. The method of claim 13, wherein the organosilicon compound is selected from the group of trimethylsilane, 2,4,6,8-tetramethylcyclotetrasiloxane, octamethylcyclotetrasiloxane, and combinations thereof, and the oxidizing gas is selected from the group of oxygen, ozone, carbon monoxide, carbon dioxide, nitrous oxide, and combinations thereof.

16. The method of claim 13, wherein the generating the plasma of the oxidizing gas comprises generating a plasma by a single-frequency RF power source and the depositing the initiation layer comprises generating a plasma by a dual-frequency RF power source.

17. The method of claim 13, wherein an inert gas is introduced with the organosilicon compound.

18. The method of claim 13, wherein the depositing the initiation layer comprises the organosilicon compound and oxidizing gas present in a ratio of about 1:1.

19. The method of claim 13, wherein the depositing the first dielectric layer comprises the organosilicon compound and oxidizing gas present in a ratio of greater than or equal to about 10:1.

20. A method for processing a substrate, comprising:

positioning the substrate in a processing chamber, wherein the substrate has a barrier layer comprising at least silicon and carbon;

introducing an oxidizing gas into the processing chamber;

generating a plasma of the oxidizing gas and forming an initiation layer on the barrier layer;

introducing an organosilicon compound into the processing chamber;

reacting the organosilicon compound and the oxidizing gas; and

depositing a first dielectric layer adjacent the initiation layer, wherein the dielectric layer comprises silicon, oxygen, and carbon and has a dielectric constant of about 3 or less.